Road Safety Factsheet

February 2017

Rural Road Safety Factsheet

More deaths occur on rural roads than on urban ones. In 2015, there were 943 fatal accidents on rural roads compared to 577 on urban roads[1].

The number of serious and slight injury collisions is higher in urban areas; in 2015 there were 90,543 on urban roads and 42,443 on rural roads. These figures show that whilst the number of collisions is higher in urban areas there is a greater chance of dying on rural roads, with 58% of the fatalities occurring on these roads.

All Road Casualties, Great Britain 2015[1]

		2011	2012	2013	2014	2015
Rural roads	Killed	1,081	941	991	982	943
	Serious injuries	8,017	7,806	7,644	8,189	7,907
	Slight injuries	38,204	36,829	35,493	36,229	34,536
Urban Roads	Killed	624	616	520	591	577
	Serious injuries	12,359	12,549	11,436	11,892	11,515
	Slight injuries	85,370	81,215	77,179	82,809	79,028
Motorways	Killed	92	80	97	85	96
	Serious injuries	610	546	544	595	616
	Slight injuries	5,117	4,989	4,756	4,950	4,838

Road Safety factsheet: Rural Road Safety

Causation factors

Failed to look properly was the most frequently reported contributory factor irrespective of road type: 49% on urban, 34% rural and 33% on motorways.

Loss of control was more commonly recorded for fatal accidents on rural roads and motorways, 38% and 30% respectively. This is largely due to the higher speed on these roads and the more winding nature of rural roads.

Fourteen per cent of fatal accident on rural roads was allocated as travelling too fast for the conditions, compared to only 7% on urban roads.

Pedestrians

The difference in traffic and pedestrian volumes between rural and urban areas means that numbers of pedestrian accidents are higher in urban areas. However, the issue is no less serious in rural areas. In 2015, 116 pedestrians were killed on rural roads, 685 were seriously injured and 2,043 were slightly injured.

Rural roads are narrow and often have no pavement or crossing facilities. Child pedestrian casualties in rural areas are more likely to occur when children are walking along the road rather than crossing it. Only 26% of casualties occur within 20 metres of a junction. There are nearly twice as many child pedestrians hurt when walking with their back to traffic than walking facing on-coming traffic. By walking in the direction of oncoming traffic (as recommended by the Highway Code) a pedestrian is more likely to see the danger and take avoiding action by moving out of the way.

Cyclists

In 2015, 50 cyclists were killed on rural roads, compared to 49 on urban roads, and 974 were seriously injured. The high number of deaths among cyclists suggests that cyclists involved in a collision on rural roads are more likely to die than their urban counter parts. This indicates that when cyclists are involved in accidents on rural roads, the injuries are more likely to be severe.

This is probably due to the nature of rural roads, which have more bends than their urban counterparts and have fewer cycle facilities to keep the cyclists out of the flow of traffic, especially in areas where a cyclist is at higher risk such as bends and junctions. There is certainly a link between the speed at which a car travels and the severity of an accident; this is particularly relevant in a rural environment where the national speed limit applies over a wide area and also when speeds and speed limits change dramatically when passing through villages.

There are less cycle journeys made in rural areas compared to urban areas.

Road Safety factsheet: Rural Road Safety

Car users

Seventy two per cent of car user deaths occur on rural roads, and in 2015 there were 563 car user fatalities. The pattern is similar for serious injuries, and in 2015 there were 4,785 serious injuries to car users in rural areas. This accounted for over 60% of the total number of serious injuries to all car users in 2015. The nature of rural roads: narrow, bendy but with high speeds is a likely cause for the severity of collisions experienced.

Motorcyclists

In 2015, 241 motorcyclist fatalities occurred on rural roads, compared to 116 deaths in urban areas. Motorcycle safety on rural roads is a major concern that needs to be tackled. The high number of deaths could be related to the fact that most motorcyclists use rural roads for recreational/weekend driving and might lack sufficient knowledge of the roads. The most common types of motorcyclist crashes are:

Failure to negotiate bends on rural A roads

This tends to be the fault of the rider, often because s/he approaches the bend too fast and/or misjudges the bend. They occur more often on leisure rides.

Collision at junctions

This tends to be the fault of the other road user, usually a driver failed to see a rider who was in clear view. Most occur at T-junctions, crossroads and roundabouts.

Collision while overtaking

Usually the rider is at fault, although this also includes riders 'filtering' through stationary or slow moving traffic, in which a driver is more likely to be at fault.

Rider losing control without another vehicle being involved

This is more common on rural roads, and often due to rider error, excessive speed, alcohol, other impairment, careless/reckless behaviour, poor road surfaces or avoiding other road users.

(Data used in these calculations taken from Government statistics)[2].

Road Safety factsheet: Rural Road Safety

Horse Riders

One activity more applicable in rural areas than urban is horse riding. There are around three million horse riders in Great Britain, many of whom ride on the road. Although they prefer not to do so, riders often have no choice because they need to reach bridleways and other off road facilities. Horse riders have a right to use the road, and both riders and motorists are responsible for each other's safety.

Horses are powerful animals that are easily frightened and can panic, especially near fast-moving traffic or at sudden loud noises. Accurate statistics for road accidents involving horses are not available, but the British Horse Society estimates that there are 3,000 such accidents each year, about half of which occur on minor roads.

References

[1] GOV UK (2016) 'Table RAS10002: Reported accidents and accident rates by road class and severity, Great Britain, 2010-14 average, 2008-2015'
URL: https://www.gov.uk/government/statistical-data-sets/ras10-reported-road-accidents
Date Accessed: 27/02/2017.

[2] GOV UK (2016) 'Table RAS30018: Reported casualty and accident rates by urban and rural roads, road class, road user type, severity, and pedestrian involvement, Great Britain, 2015'
URL: https://www.gov.uk/government/statistical-data-sets/ras30-reported-casualties-in-road-accidents
Date Accessed: 27/02/2016.

[3] TRL (2004) 'Accident Analysis on Rural Roads- A Technical Guide'
URL: https://trl.co.uk/reports/PPR026

[4] Scottish Executive Social Research (2005) 'Rural Road Safety: A Literature Review'
URL: http://www.gov.scot/Resource/Doc/55971/0015834.pdf

[5] DfT (2005) 'Drivers urged to take care on rural roads'. Think Road Safety Publicity Campaign Notes.

Rail Safety Statistics

2015-16 Annual Statistical Release

Publication Date: 22 September 2016

Next release: September 2017

Background

This release contains statistics on rail safety in Great Britain from 2002-03 to 2015-16.

Rail safety statistics for Great Britain include information on train accidents and the number of fatalities and injuries affecting passengers, workforce and members of the public.

Data are sourced from the Rail Safety and Standards Board (RSSB), London Underground Limited (LUL), the British Transport Police (BTP) and the Office of Rail and Road (ORR).

More detailed commentary about the statistics contained in this release can be found in RSSB's Annual Safety Performance Report and ORR's Annual Health and Safety Report

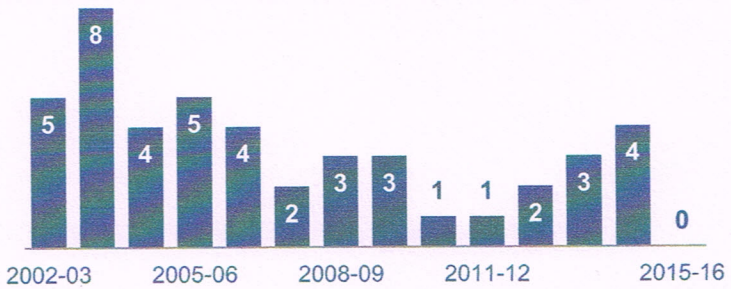
Contents

Summary

Fatalities on the Railway

There were **no workforce fatalities** in 2015-16 for the first time since the time series began in 2002-03.

Workforce fatalities on the railway, Great Britain, 2002-03 to 2015-16



The number of **passenger fatalities increased to 11** - up from four in 2014-15 - although no one died as the result of a train accident for the ninth consecutive year.

There were **316 fatalities to members of the public**, of which 278 were suicides or suspected suicides.

Injuries on the Railway

The **total number of injuries decreased** in 2015-16 compared to the previous year, with the majority of the decrease having been on the mainline.

The number of injuries on London Underground and trams, metros and other non-Network Rail networks has been stable.

Other Safety Incidents on the Railway

There were **759 train accidents** in 2015-16, an increase of four accidents compared to 2014-15.

There were **3 fatalities on level crossings** in 2015-16 - all were pedestrian users. This was 8 fewer fatalities than in 2014-15.

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Website: www.orr.gov.uk/statistics/published-stats/statistical-releases

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RURAL ROAD ENVIRONMENT

POLICY PAPER

AUGUST 2010

Pedestrian Injuries

Around one third of pedestrian fatalities occur on rural roads and the other two thirds on urban. Pedestrian injuries in rural areas are more likely to be fatal however, and the figures from table 2 show that 5% of all recorded pedestrian injuries resulting in a fatality, compared with urban areas where fatal casualties are 1.5% of pedestrian casualties.

Pedal Cyclists

There are a similar number of cyclist fatalities on rural and urban roads although, similar to the trend for pedestrians, many more of all severities occur on urban roads which tend to be used by a greater number of cyclists.

Pedal cyclist casualties on rural roads also tend to be more severe than urban areas, with fatal or serious injuries representing around 1 in 4 of all casualties in rural areas and 1 in 7 in urban ones.

Motorcyclists

Although around 63% of motorcyclist injuries result from accidents in urban areas, around two and a half times more motorcyclists are killed on rural roads than on urban ones.

Motorcycle accidents in rural areas are much more likely to result in a serious injury.

Car User

In 2007, there were more car occupants killed on the roads than all other road user groups put together, and car occupants represented the largest casualty group on the roads.

Although car user injuries of all severities are split evenly between rural and urban areas, severe injuries are more common in rural areas. Twice as many car occupant fatal and serious injuries and four times as many fatalities occur on rural roads than on urban ones.

Other Vehicles

Casualties in the other vehicles category are mainly LGV and HGV users, although the category also includes occupants of buses and coaches as well as other vehicles which may be using the road.

Injuries are roughly split between urban and rural roads, and although slightly more KSI injuries occur in urban areas. Slightly more fatalities occur in rural areas.

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Inappropriate Speed Factsheet

Inappropriate speed contributes to around 6% of all injury collisions reported to the police, 15% of crashes resulting in a serious injury and 26% of collisions which result in a death[1]. This includes both 'excessive speed', when the speed limit is exceeded but also driving or riding within the speed limit when this is too fast for the conditions at the time (for example, in poor weather, poor visibility or high pedestrian activity).

In 2015, 222 people were killed in crashes involving someone exceeding the speed limit and a further 167 people died when someone was travelling too fast for the conditions [1].

Drivers and riders who are travelling at inappropriate speeds are more likely to crash and their higher speed means that the crash will cause more severe injuries, to themselves and/or to other road users. Inappropriate speed also magnifies other driver errors, such as driving too close or driving when tired or distracted, multiplying the chances of these types of driving causing an accident.

Higher Speeds Cause More Accidents

Higher speeds mean that drivers have less time to identify and react to what is happening around them, and it takes longer for the vehicle to stop. It removes the driver's safety margin and turns near misses into crashes.

Around two-thirds of crashes in which people are killed or injured occur on roads with a speed limit of 30 mph or less. At 30 mph vehicles are travelling at 44 feet (about 3 car lengths) each second. One blink and the driver may fail to see the early warning brake lights; a short glance away and the movement of a child behind a parked car will be missed. Even in good conditions, the difference in stopping distance between 30 mph and 35 mph is an extra 21 feet or 6.4 metres, more than 2 car lengths.

If average speeds reduced by 1 mph, the accident rate would fall by approximately 5%[2,3]. This varies slightly according to road type, so that a 1 mph reduction in average speed would reduce accident frequency by about:

- 6% on urban main roads and residential roads with low average speeds
- 4% on medium speed urban roads and lower speed rural main roads
- 3% on the higher speed urban roads and rural single carriageway main roads.

If an individual drives more than 10 - 15% above the average speed of the traffic around them, they are much more likely to be involved in an accident.

Drivers who speed are more likely to be involved in collisions. They are also more likely to commit other driving violations, such as red-light running and driving too close.

Higher Speeds Cause More Serious Injuries [4]

Car Drivers

The risk of injury in any collision is influenced by many factors, including the vehicle's speed, its design, strength and occupant protection systems, whether the occupants were wearing seat belts, the nature of the other vehicle(s) or object(s) struck, and the medical care received by the victims.

However, car drivers are much more likely to be injured in collisions at higher speeds. On average, in frontal impacts, belted drivers have a 17% risk of being fatally injured in impacts at 40 mph and a 60% risk at 50 mph. Having said that, half of drivers who were fatally injured were in an impact of 34 mph or less.

Side Impacts

When cars are hit from the side, drivers are at a much greater risk: in a collision at 40 mph the risk of a belted driver being killed is 85%.

Pedestrians

Multiple studies (see Table 1 below) have shown that pedestrians are more likely to be severely or fatally injured when hit by cars at higher speeds, and particularly when the car is travelling more than 30 mph.

An analysis of vehicle speed in pedestrian fatalities in Great Britain[4], found that 85% of pedestrians killed when struck by cars or car-derived vans, died in collision that occurred at impact speeds below 40mph, 45% at less than 30 mph and 5% at speeds below 20 mph.

The risk of a pedestrian who is hit by a car being killed increases slowly until impact speeds of around 30 mph. Above this speed, the risk increases rapidly, so that a pedestrian who is hit by a car travelling at between 30 mph and 40 mph is between 3.5 and 5.5 times more likely to be killed than if hit by a car travelling at below 30 mph. However, about half of pedestrian fatalities occur at impact speeds of 30 mph or below. Elderly pedestrians have a much greater risk of suffering fatal injuries than other age groups.

Table 1: Pedestrian Fatality Risk [4]

Country	Date	Number of injuries examined	Risk of fatal injury at 30mph	Increased risk of fatal injury between 30mph and 40mph
UK	1970s	358	~9%	**5.5** times more likely
Germany	1999-2007	490 (excludes children under 15)	7%	**3.5** times more likely
UK	2000-2009	197	7%	**4.5** times more likely

Communities and Local Government

Department for Transport

Manual for Streets

Chapter aims

- Advise how the requirements of different users can be accommodated in street design.
- Summarise research which shows that increased visibility encourages higher vehicle speeds.
- Describe how street space can be allocated based on pedestrian need, using swept path analysis to ensure that minimum access requirements for vehicles are met.
- Describe the rationale behind using shorter vehicle stopping distances to determine visibility requirements on links and at junctions.
- Recommend that the design of streets should determine vehicle speed.
- Recommend a maximum design speed of 20 mph for residential streets.

7.1 Introduction

7.1.1 Several issues need to be considered in order to satisfy the various user requirements detailed in Chapter 6, namely:

- street widths and components;
- junctions;
- features for controlling vehicle speeds;
- forward visibility on links; and
- visibility splays at junctions.

7.2 Street dimensions

7.2.1 The design of new streets or the improvement of existing ones should take into account the functions of the street, and the type, density and character of the development.

7.2.2 Carriageway widths should be appropriate for the particular context and uses of the street. Key factors to take into account include:

- the volume of vehicular traffic and pedestrian activity;
- the traffic composition;
- the demarcation, if any, between carriageway and footway (e.g. kerb, street furniture or trees and planting);
- whether parking is to take place in the carriageway and, if so, its distribution, arrangement, the frequency of occupation, and the likely level of parking enforcement (if any);
- the design speed (recommended to be 20 mph or less in residential areas);
- the curvature of the street (bends require greater width to accommodate the swept path of larger vehicles); and
- any intention to include one-way streets, or short stretches of single lane working in two-way streets.

7.2.3 In lightly-trafficked streets, carriageways may be narrowed over short lengths to a single lane as a traffic-calming feature. In such single lane working sections of

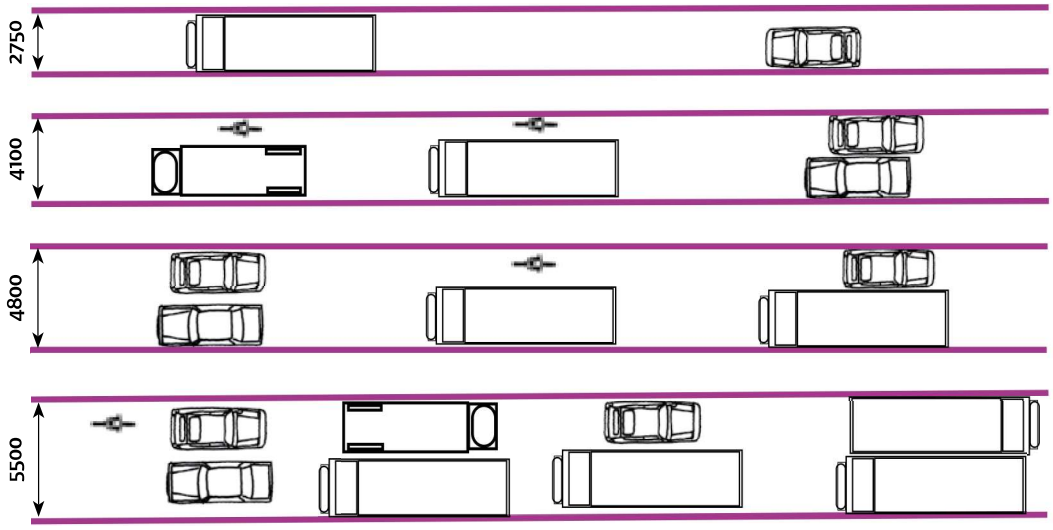

Figure 7.1 Illustrates what various carriageway widths can accommodate. They are not necessarily recommendations.